

vessel came around without shipping any water, and kept perfectly dry while lying to.

Captain J. E. Lewis, master of schooner *Laurence Haines*, reports that he used oil when hove to in a terrible N. N. E. gale off Hatteras, on December 26th and 27th; force of wind from fifty to sixty miles per hour. He put over three bags containing oakum and oil; one forward, one aft, and one amidships, and hanging so as to dip as the vessel rolled. Oil used, mixture of linseed, tar and kerosene oil. The bags were used thirty hours, and three gallons of the mixture were expended. He claims that his vessel was saved by the use of oil.

Captain E. L. Arey, of the schooner *Jennie A. Cheney*, writes: "I used oil with very satisfactory results during the late severe hurricane of the 25th of August, in latitude 31° N., longitude 79° W. The wind having carried away the mainsail, I bent a storm trysail, and continued under that sail until it also blew away. During the time, the vessel was shipping large quantities of water, the sea being very irregular, nearly every one breaking. After the sails were blown away, finding it necessary to do something to save the ship and crew, I took a small canvas bag and turned about five gallons of linseed oil into it, and hung it over the star-board quarter. The wash of the sea caused a little of the oil to leak out, and smoothed the surface, so that for ten hours no water broke aboard. I consider that the oil used, during the last and heaviest part of the hurricane, saved vessel and crew."

---

*An Obituary Notice of the Late George Whitney. By William Sellers.*

*(Read before the American Philosophical Society, February 19, 1886.)*

The subject of this memoir was born in Brownville, New York State, October 17th, 1819. He was educated at the Albany Academy, Albany, N. Y., where he distinguished himself by his quickness of perception and aptitude for learning, which enabled him to carry off the honors of his class in successive competitive examinations and to obtain a large share of the prizes given each term.

At an early age George Whitney developed a decided preference for studies in natural philosophy, drawing and mechanics. In 1832 his father, Mr. Asa Whitney, was appointed Superintendent of the Mohawk and Hudson River Railroad, one of the earliest steam roads in this country, and his son George availed himself, on all holiday occasions, of the opportunity thus presented of acquiring familiarity with the mechanism of the engines and the practical operation of the road.

As a draughtsman, George Whitney was equaled by few, and his beautiful drawings of some of the first English locomotives sent to America

(made when he was quite a youth), are still preserved in his family, and are tangible evidences of his skill in this direction.

Mr. Whitney's taste naturally led him to choose the profession of civil engineering, and on completing his studies he immediately secured a situation on the surveying corps of the proposed railroad between Hartford and Springfield, Connecticut, the lines for which were run in the middle of a rigorous winter, the engineers being exposed to the hardships of extreme cold and deep snows. On the completion of this survey he was retained by the engineer in charge, the late William H. Talcott, and transferred, in 1840, to the little town of Cuba, Allegany Co., N. Y., where he was placed in charge of a section of the work of enlarging the Genessee Valley canal, being engaged both in preparing estimates of cost and in supervising the practical construction. Mr. Whitney remained at this post more than two years, and was then transferred to Albany as private secretary to the same engineer.

In 1842, Mr. Asa Whitney removed to Philadelphia, having formed a partnership with Matthias W. Baldwin, under the name of Baldwin & Whitney, for the manufacture of locomotives. Mr. George Whitney was soon called to Philadelphia and was employed by this firm until its dissolution in 1846.

We next find him assisting his father, who had been appointed president of the Morris Canal Co., in the work of preparing drawings for the remodeling and enlargement of the canal, a work of considerable magnitude in those days, involving some bold schemes in the substitution of improved inclined planes for the old-fashioned locks, and which, by their successful operation, rescued the company from its financial embarrassments and placed it upon a paying basis.

The President's "Report to the Stockholders of the Morris Canal and Banking Company, March 17th, 1848," contains an interesting account of the experimental tests made January 27th, 1848, of the first inclined plane constructed under his supervision, in which he says that a boat containing seventy tons of cargo (exclusive of the weight of boat and car) was passed repeatedly up and down the plane, with great apparent ease and without employing more than half the power that had been provided. The boats were carried up the inclined planes at a greater velocity than they were towed on the levels, and the system then introduced is still in successful operation on the canal. The height of the first plane was fifty-one feet, its inclination one in ten; the whole distance that the boat was moved by machinery was 900 feet and the time employed was three and a half minutes.

Mr. Asa Whitney, realizing, prior to dissolving partnership with Mr. Baldwin, the great necessity for improvement in wheels for locomotives, tenders and cars, had devised a process for annealing wheels made of chilled cast-iron, for which he obtained a patent in 1848. The experiments, which were made chiefly by Mr. George Whitney, under his father's direction, proved so successful that Mr. Asa Whitney, foreseeing the opportunity

here presented of developing a large and profitable business, resolved to confine himself to this specialty; accordingly, in 1847, the firm of A. Whitney & Son was established for the purpose of manufacturing chilled cast-iron car-wheels under this patent. The extensive works covering the ground between Callowhill street, Pennsylvania avenue, and Sixteenth and Seventeenth streets, were erected a few years later, and were by far the finest and most substantial, as well as largest, devoted to this specialty in the country. As an evidence of the extent of the business it may be stated that about one and a half million car-wheels have since that time been made at this establishment and sent to all parts of the world where the iron horse has penetrated.

Mr. George Whitney devised many improvements facilitating this manufacture, and for several years prior to the death of his father, which occurred in 1874, he was the practical head of the firm.

Outside of this special occupation, Mr. Whitney was well known as a public-spirited citizen, giving aid both by his wise counsels and his generous contributions to all laudable objects. At the outbreak of the late rebellion he was one of the foremost business men in this city to recognize and accept the responsibilities thrust upon him and he never wavered for a moment, or lost courage in the darkest hours of the nation's peril; he was one of the original members of the Union Club, a liberal subscriber to and treasurer of the Bounty Fund, and he testified, in various other substantial ways, his loyalty to his country.

As a business man, Mr. Whitney's reputation was such that his counsels were eagerly sought by many of our largest moneyed institutions, and though failing health compelled him of late years to relinquish some of these labors he was still active in not a few such corporations. At the time of his death he was a Director of the Insurance Company of North America, The Philadelphia National Bank, The Philadelphia Saving Fund, and The Lehigh Coal and Navigation Company.

As an art patron, Mr. Whitney has done much to stimulate the higher education in art in this country, both by his judicious selection of foreign paintings of the highest order and by his generous encouragement of native talent; his collection of pictures is one of the choicest in the United States and is even better known in Europe than in this country. Mr. Whitney was, for many years, a Manager of the Philadelphia School of Design, a member of the Board of Trustees of the Academy of Fine Arts and of the Pennsylvania Museum of Industrial Art; he was also an honorary fellow of the Metropolitan Museum, and at the time of his death was one of the Board of Trustees of the University of Pennsylvania.

In private life Mr. Whitney was an exceedingly modest and unassuming Christian gentleman, generous to a fault, ever ready to assist the unfortunate, while carefully concealing his name and his good works from the public eye. He died on the sixth day of March, 1885, after an illness of several weeks.